

DOE/PHRI Cooperative Agreement
#DE-FC03-98EH98035/A000

DOE/PHRI Special Medical Care Program in the
Republic of the Marshall Islands

**Quarterly Program Progress Report
October 1, 2001 – December 31, 2001**

Submitted by:
Pacific Health Research Institute
846 S. Hotel Street, Suite #303
Honolulu, HI 96813
(808) 524-4411

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Quarterly Program Progress Report under
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Date: January 31, 2002

Title of the Project: Deliver Special Medical Care to the Marshall Islands as
Stated in P.L. 99-239.

Principal Investigator: Neal A. Palafox, M.D., M.P.H.

Co-Principal Investigator: Henry N. Preston, M.D.

Program Coordinator: Lola M. Colombe

Period Covered in this Report: October 1, 2001 – December 31, 2001

I. Introduction

The DOE/PHRI Special Medical Care Program continues to provide, on a year round basis, a broad spectrum of medical care to the DOE patient population. During this second quarter of Year 4, the following medical services were provided:

- Annual medical examinations for the DOE patient population (see Exhibit 1 for details).
- Medications for the DOE patient population.
- Referrals to Straub Clinic & Hospital in Honolulu, Hawaii (see Exhibit 1 for details).
- Additional manpower for the outpatient clinics at Ebeye and Majuro Hospitals (see Exhibit 2 for details).
- Preventive and primary medical care to the DOE patient population in the RMI as time and resources permit.
- Ancillary services such as labs, radiology and pharmacy in coordination with Kwajalein Hospital, Majuro Hospital and the 177 Health Care Program (177 HCP).
- One (1) trip to Mejjatto (see Exhibit 3 for details) to see the DOE patient population.
- Referrals to Ebeye Hospital, Majuro Hospital and Kwajalein Hospital as necessary.

In addition to the above, the program was also involved in the following activities during this quarter:

- Held a Multicultural Training Workshop for Residents at the Physicians Center in Mililani.
- Organized and conducted continuing medical education (CME) talks for the program's RMI staff and other RMI healthcare workers.
- Installed the EMR system at both clinics in the RMI as well as at the 177 HCP clinic in Majuro.
- Continued to input past medical records into the EMR system.
- Continued to coordinate with the Public Health Departments on Majuro and Ebeye.
- Continued the development of the program's secure web-site.

- Continued to look for opportunities to expand the program's telehealth capabilities.
- Held meetings with RMI government officials and Local Atoll government officials.
- Worked with DOE to re-work the program's goals and budget.
- Coordinated with Dr. Riklon to prioritize tasks, develop clinic goals and look at better clinic workflow.
- Met with physicians and staff from the Joslin Vision Network to discuss how the program can provide vision screening for the diabetic patients.
- Met with clinical and administrative leaders from the Forsyth Institute to discuss how the program can work together with them to meet the dental needs of the DOE patient population as well as the overall RMI population.

The following report details the additions and changes to the program for the October 1, 2001 – December 31, 2001 period.

II. Health Status of Population

Participation in this medical program is strictly voluntary. Currently there are 119 of the exposed patients and 90 of the additional DOE patients being cared for by the program¹. One patient passed away in this quarter. The total number of DOE patient encounters during this period were 289². There were 4 referrals during this quarter to Straub Clinic & Hospital for further follow-up and evaluation on possible radiation related illnesses (see Exhibit 1 for details).

During this quarter, 29 annual examinations were begun (Level 1), of which 35 were completed (Level 2) (see Exhibit 4 for details). The completion rate has increased compared to prior quarters due to the efforts of medical staff. However, since all patients must still travel to Kwajalein to complete their laboratory tests and/or mammograms, there is often a lag time between when patients get their tests done and when results are received by the clinics.³

III. Program Administration and Physicians

The program continues to have Residents who choose to make repeat rotations to the Marshall Islands. These repeat rotations by the residents help the program provide continuity of care for the DOE patient population (see Exhibit 2 for details).

In order to provide ongoing continuity of care to the DOE patient population and clinic oversight for the program's RMI staff, the program's physicians and staff based in Honolulu have visited the RMI on two different occasions during the October 1, 2001 – December 31, 2001 period. These visits include:

- 1 visit by Dr. Wilfred Alik, Co-Investigator: December 2001.

¹ The term DOE patient population refers to the combination of both the "exposed" patients and the additional DOE patients, formerly known as the "comparison or control" group.

² Clinic encounters fluctuate based on the presence of the medical officers (vacation, sick leave, professional leave, outer atoll trips) and whether the residents and faculty speak Marshallese. In addition, please note that Kwajalein patient encounters include visits for medical procedures/tests that could not be conducted in Majuro, Mejjatto or Utrik.

³ Annual exams are counted as completed once all the results are received by PHRI in Honolulu, either physically or entered into the EMR system.

- 1 visit by Lola Colombe, Program Coordinator: October 2001.
- 1 visit by Chris Welch, Computer Systems Analyst: October 2001.

In follow-up to the DOE meeting in June of 2001, a 3-month planning committee was established to redo the program's operating budget and goals. The committee members included: Bill Jackson, Neal Palafox, Henry Preston, Vicki Shambaugh, Lola Colombe, Lance Yamaguchi and Mark Bodnarczuk. After submission of a revised budget on October 1, 2001, the program was advised of a \$100,000 budget cut and worked with DOE to make further revisions to the budget. Following that, procedures' costs at Kwajalein were raised and the indirect cost rate for PHRI was finalized by the Federal Government retroactive to 2000. These had further impacts on the budget. DOE and PHRI are working on resolution of the above.

During this quarter, Dr. Riklon has been involved in numerous committees and meetings. As a member of the Credential Review Committee for the Majuro Hospital, He made recommendations for the posts of Ob/Gyn, Ophthalmology, Anesthesia, Radiology, Urology, Pathology, ENT and Pediatrics. Along with other medical staff members of the Majuro Hospital, Dr. Riklon met with a group of Japanese officials who visited Majuro to conduct a feasibility study of the planned New Majuro Hospital. Discussions with the Japanese team were quite involved and extensive. Among the issues discussed were the need for a new hospital, cost-effectiveness of the facility in significantly decreasing the number of off-island referrals and the sustainability of the facility. The Japanese officials also visited the DOE/PHRI clinic and were given a tour and a brief description of the program.

IV. Continuing Medical Education

The following CME presentations have been given this quarter:

<u>DATE</u>	<u>PRESENTOR</u>	<u>PLACE</u>	<u>TOPIC</u>
Oct. of '01	Charles Whitehill, MD (Resident)	Ebeye Hospital	Management of Acute GI Bleed
	Kathleen Kozak, MD (Faculty)	Ebeye Hospital	Cholesterol Management
	Sheldon Riklon, MD	Majuro	HIV
Nov. of '01	Sharyl Taoka, MD (Resident)	Majuro Hospital	Acute Coronary Syndrome
Dec. of '01	Gabriela Ortiz-Omphroy, MD (Resident)	Ebeye & Majuro Hospital	Vaginitis

These presentations are given not only to the RMI physicians and staff but also to other interested healthcare workers in the RMI. They were held at Ebeye and Majuro Hospitals and were well received. The talk on Majuro by Dr. Riklon was given at a Women's Group meeting.

The program continues to provide the RMI staff and collaborating physicians at Kwajalein and Ebeye Hospitals, medical updates and resources via e-mail and the web.

V. Clinics

Both clinics continue to provide annual medical exams for the DOE patient population (see Exhibit 4 for details) and other preventative medical services as time and resources permit. Both of the MO's as well as the Residents, Faculty and Dr. Riklon assist the MOHE at Ebeye and Majuro Hospital during outpatient clinic hours. They also take call during the evenings as assigned.

During this quarter, preprinted labels, for each of the medications on the formulary, were created in the Marshallese Language. These labels will ensure that patients understand the instructions on their medications and reduce the chance of misuse of drugs.

The Majuro clinic continues to increase its patient encounters compared to the past years. Dr. Riklon is working hard to make the clinic more efficient and to make sure efforts are coordinated with Bechtel Nevada, the 177 HCP and the Ministry of Health.

With regards to the Kwajalein operations, the clinic may be able to make the move to Ebeye sooner than expected. Originally, the construction on the new Ebeye Hospital appeared to be going on at a slow pace and it was not anticipated to be finished until July of 2002. However, the opening is now scheduled for February 9th of 2002, which is earlier than anticipated. The program has been working with Bechtel, DOE and the Ministry to assess the program's needs and come to some agreement with regards to rent. More specific discussions will take place when Dr. Palafox and Bill Jackson attend the opening ceremony in late January.

VI. Other Health Related Services

A. Public Health Sector:

Dr. Riklon met with the nurses from the Public Health Departments in Majuro on several occasions on how to better incorporate the Residents visits to the RMI with the various public health activities. Last quarter several trials were done by at least 2 of the residents, which included their involvement with the TB/Leprosy program and the Outreach program in Majuro. One conclusion that has subsequently been reached as a result of the trials is that more effort needs to be given on planning a set schedule for the residents' time at the Public Health Clinics. Oftentimes the Public Health clinic hour's conflict with the DOE/PHRI clinic hours and activities will be cancelled at the last minute. During the next quarter Dr. Riklon will work to devise a schedule as both the residents and public health nurses realize the value of their working together.

This quarter the residents were involved in home visits to see diabetic, hypertensive, Hansen's Disease, TB, malnutrition, and immunization patients. They assist in conducting patient education and adjusting medications as needed during outreach visits.

On Ebeye, with the assistance of Dr. Tom Jack, the same type of coordination was discussed. The Residents continued to work with the diabetes support group as well as with the Tuberculosis and Hansens' Disease public health nurses on Ebeye.

VII. Thyroid Examinations

Currently, thyroid ultrasounds are conducted on a yearly basis on the DOE patient population. The clinics continue to use the handheld thyroid ultrasound machines and note abnormalities or nodules on specially designed progress notes. Dr. Kryston will be making a visit in January to conduct quality assurance with regards to thyroid palpations and see patients as needed.

VIII. Medical Records

During this quarter the computer systems analyst, along with the program coordinator, traveled to the RMI to install the electronic medical record system at the DOE clinics on Majuro and Kwajalein as well as the 177 HCP clinic in Majuro.

A. Majuro

The installation on Majuro for the RMI clinic trailer involved a number of steps: (1) The setting up of three NTA dial up accounts for access to the Internet (two for the clinic computers and one for Dr. Riklon's laptop computer). (2) Wiring the trailer as a Local Area Network (LAN) so that all computers could print to the Lexmark T610N that was part of the EMR system. The wiring process involved drilling holes through the floor and walls, and the routing of cables under the trailer. (3) Setting up the computer systems and testing connectivity to the EMR. Some of the issues related to the install and operation of the system were printing capability and the speed of access to the EMR. The printing issue was subsequently resolved. However, the speed of access issue, due to the required use of dial up equipment on Majuro, has not been resolved. Chris Welch is continuing to research methods of speedier access.

The 177 Program computer equipment was also delivered and setup. The system operation was tested and found to work adequately. The 177 Program also uses dial up access to the EMR, and hence has speed related problems with access to the system.

B. Kwajalein

Installation of the computer system on Kwajalein involved very little physical set up. The LAN wiring was in place, as were the computer systems. Testing the LAN, troubleshooting a LAN connectivity problem, and adjusting computer equipment settings were minor issues. A much more pressing issue was a conflict between the firewall equipment protecting the Kwajalein wide area network and the virtual private network (VPN) client used by the program's EMR system. This issue was resolved and service to

the Kwajalein clinic is in full operation. Due to the use of ISDN, the Kwajalein clinic has real time access to the EMR with minimal latency.

Due to the differing technical capabilities of the communication infrastructure on the atolls of Majuro and Kwajalein, the process of computer equipment installation was significantly different. More importantly, the differing communication infrastructure translates to a marked performance asymmetry when accessing the EMR. Where the Kwajalein clinic can access and change records with little apparent lag caused by network performance, the Majuro clinic suffers from significant lag times. This causes noticeable wait times between activities performed on the EMR. In short, Majuro clinic's reliance upon dial up service to NTA for access to the EMR significantly impacts the usability of the system. This issue is also relevant to the prospect of a move to Ebeye – it is assumed that the communication infrastructure on Ebeye is of the same caliber as that on Majuro, and would hence have similar shortcomings. Detailed research and analysis is required before moving the record system off of Kwajalein and to Ebeye, in order to assure a successful transition from one setting to the other.

During this quarter the computer systems analyst, the program coordinator and the program assistant have entered into the EMR system, all of the program's records (from Jan. 1999 to current) for those patients whose annual exams were due to be completed as of 12/31/01 (54 records). They will continue to divide up the patient records until all records have been entered. This is a very tedious and time-consuming task, with some charts taking a whole day to enter. Record entry has served three purposes: (1) provided data to clinicians prior to annual exams; (2) educated the staff on the use and idiosyncrasies of the system; (3) allowed for troubleshooting of the PHRI implementation of the system.

Lola Colombe and Chris Welch had a conference call with a representative from Physician Microsystems in mid-December for training on the administration of the Practice Partner EMR system. The training was a recommended step in follow-up to the user training in September. Covered in the conference call were the following requirements:

- For keeping the system properly configured.
- For gaining access to technical support.
- For routine maintenance procedures.
- For troubleshooting issues.
- For further training for administrative and technical tasks.

IX. Telehealth

In order to facilitate telehealth capabilities, the computer analyst continues to pursue broadband connectivity for Majuro. The EMR system on Majuro, while up and running is often slow and erratic. In order to use the system on a consistent basis, the clinic needs to have reliable and consistent Internet service. To date, NTA has not been able to provide this regularly. This will be a major issue for the program should the clinic move from Kwajalein to Ebeye.

The computer systems analyst continues to monitor and make revisions to both the public and secure website, which can be found at www.phri-doe.org. The program's connections through the telehealth associations and the National Library of Medicine allow the program to receive and send important up-to-date health information to the RMI staff as well as to other medical

centers in the RMI. This provides an on-going source of continuing medical education for the RMI health professionals.

In October, Dr. Neal A. Palafox and Co-Investigator, Vicki Shambaugh met with Dr. Lloyd Aiello and the staff of the Joslin Vision Network to discuss potential methods for providing vision screening for the DOE patient population. It was jointly decided that the first step would be to do a needs assessment for the RMI. Joslin is working to see if they can incorporate the deployment of a unit to Kwajalein under their current program with the military. A sample of Marshallese from Ebeye would receive vision screening at Kwajalein as well as the DOE/PHRI patients. PHRI would work with them to select an individual to be trained to operate the unit to capture the images. These images would then be sent electronically to Joslin for reading. Based on the findings from the assessment an overall vision program would be developed for the RMI. This program could then be used to determine the potential cost for future proposals to obtain funding as needed. As there is no ongoing eye care in the RMI, we expect to find a great deal of patients that will need treatment. An assessment will give us the information we need to estimate the findings to be expected in the population and resultant treatment needed (diabetic retinopathy, etc.).

Dr. Neal A. Palafox and Co-Investigator, Vicki Shambaugh also met with the administrative and clinical leaders of the Forsyth Institute. They were also very positive. They are currently doing an oral health project in Saudi Arabia and feel they could apply that project in the RMI. They are interested in working with us to send a dentist and an oral hygienist to the RMI to see what is currently available, the current oral health status, and meet with MOHE staff. In collaboration with the RMI, they could then develop a plan for the RMI focussing on children and prevention. This would include training staff to deliver preventive dental care. Forsyth felt the cost of delivering dental care to adults would be prohibitive and suggested we focus on children and prevention. While this does not meet our DOE/PHRI patient needs, it will be a positive step in reaching family members.

We have approached the RMI MOHE on both of the above and have their approval to move forward. Vision and dental care were two of the requests for care made by the DOE/PHRI patient population in community meetings. While we will not be able to provide all of this through the current DOE/PHRI program, we are looking at other ways we can assist in making this care available to not only program participants but also others in the RMI through other funding sources.

X. Quality Assurance

As more records are entered in the new EMR system, audits are conducted in Honolulu by the computer systems analyst, the program coordinator and the program assistant. The records are checked for accuracy and completeness.

The program continues to administer patient satisfaction forms and during this quarter 54 forms have been completed. The program will continue to make sure the forms are completed.

XI. Access

During the 2nd quarter of this fiscal year, several changes were made, per the recommendations and concerns of the patients in the DOE/PHRI program, to increase accessibility to the clinics both on Majuro & Kwajalein. The clinic hours have been extended and the Majuro clinic is now open 3 hours per day as opposed to the previous 2 hours per day when Dr. Riklon is on site.

For those patients who reside on the U.S. Mainland or in Hawaii, the program continues to provide annual examinations for them at either the Physician's Center in Mililani or at Straub Clinic & Hospital. The program works closely with Bechtel Nevada to make sure patients, who reside in Hawaii, who are eligible for insurance, complete the necessary paperwork with the State.

XII. Conferences

American Academy of Family Physicians (AAFP) 2001 Annual Scientific Assembly in Atlanta, Georgia:

The AAFP conference was attended by Dr. Sheldon Riklon. The conference was a very valuable experience as it offered various hands-on courses that are quite relevant not only for the DOE patient population, but also for the local Marshallese population as a whole. The main theme for the conference centered on Cancer and included several seminars on the latest screening recommendations, treatment and management of all types of cancer. The conference also enabled Dr. Riklon to further develop his skills in doing the flexible sigmoidoscopy, colposcopy, cryotherapy, suturing, and LEEPs.

Exhibit 1

Patient Statistics for October 1, 2001 – December 31, 2001 (1)

Location	DOE Patient Encounters (4)	Non-DOE Patient Encounters (5)	Deaths	Referrals to Hawaii	Annual Examinations (6)
Ebeye	7	160	0	1	-
Kwajalein	138	-	-	-	10 (17)
Majuro	117	305	0	1	12 (12)
Mejatto	5	14	0	1	2 (1)
Utrik	-	-	0	0	0
Honolulu (2)	16	-	1	1	4 (4)
CONUS (3)	6	-	0	0	1 (1)
Total	289	479	1	4	29 (35)

(1) Statistics from October 1, 2001 – December 31, 2001.

(2) Honolulu numbers include 12 prescription refills.

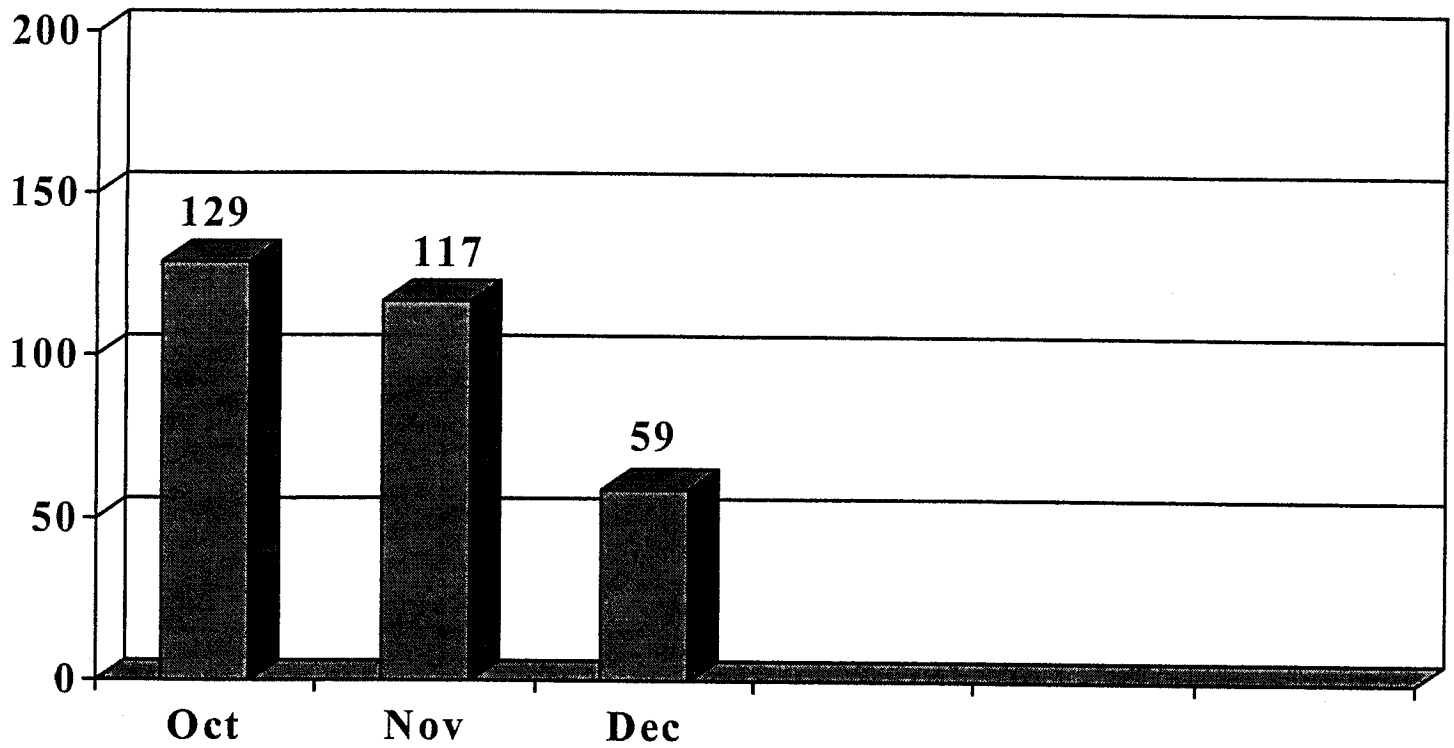
(3) CONUS numbers include 5 prescription refills sent to mainland patients and annual exam visits conducted in Hawaii.

(4) Encounters include visits for annual exams, home visits, follow-ups, labs, procedures and prescription refills.

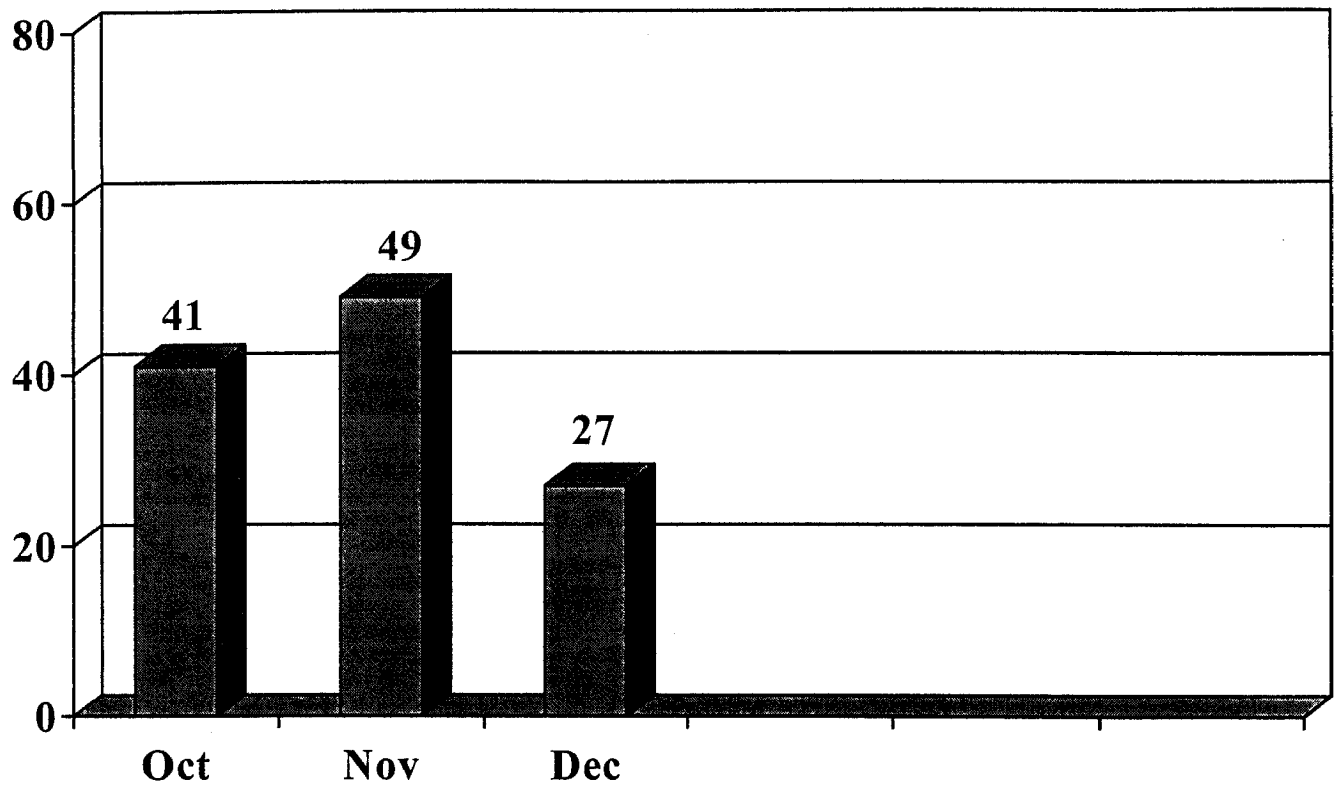
(5) Total # of non-DOE patients seen at outpatient clinics at Ebeye and Majuro Hospital by the Medical Officers, Residents and Faculty. Figures for Majuro include actual numbers for Resident and Faculty. The figures for the Medical Officer on Majuro are based on 10 patients per day (3 days per week).

(6) Indicates location where physical examination took place, except for CONUS where all exams were done in Hawaii at the Physician's Center in Mililani. The number in () indicates annual examinations completed during this period.

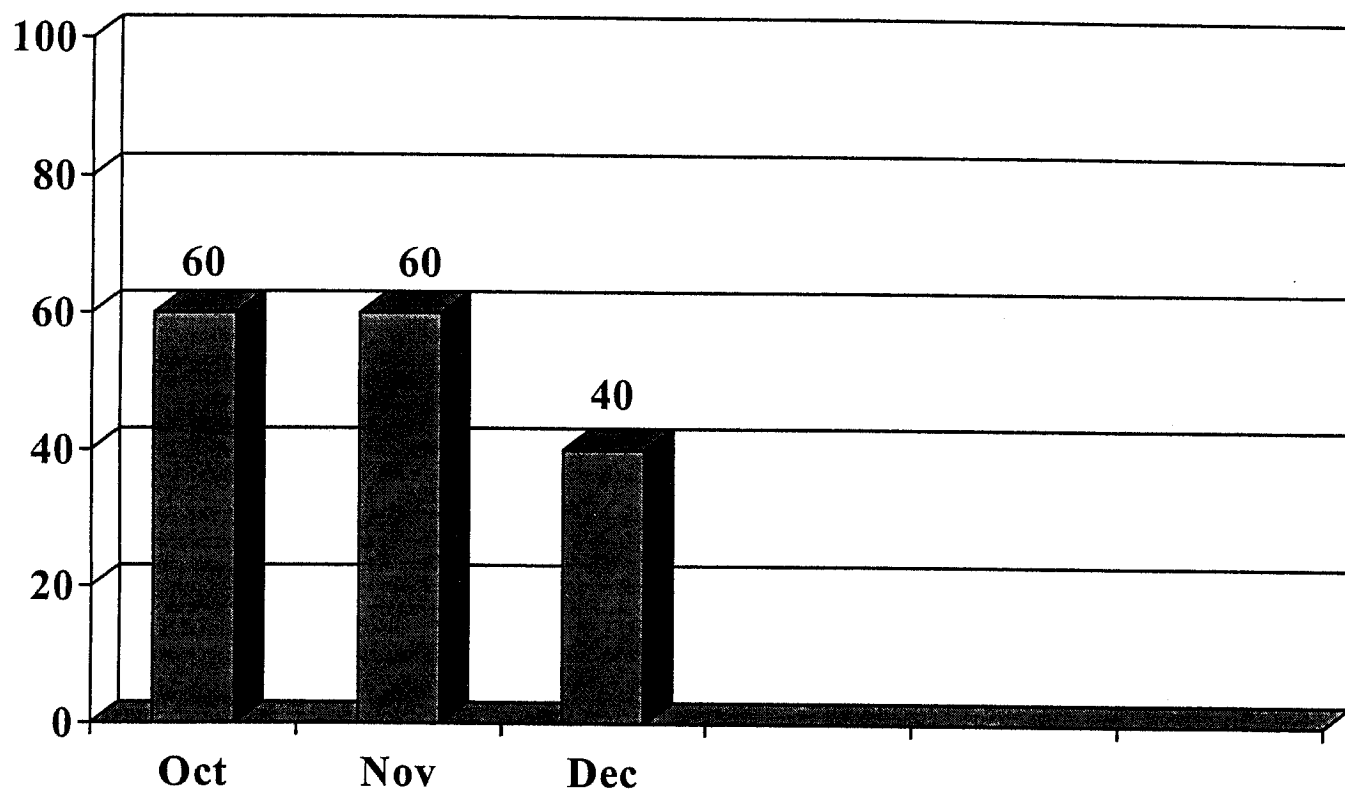
DOE Patient Encounters – Kwajalein Clinic



DOE Patient Encounters – Majuro Clinic

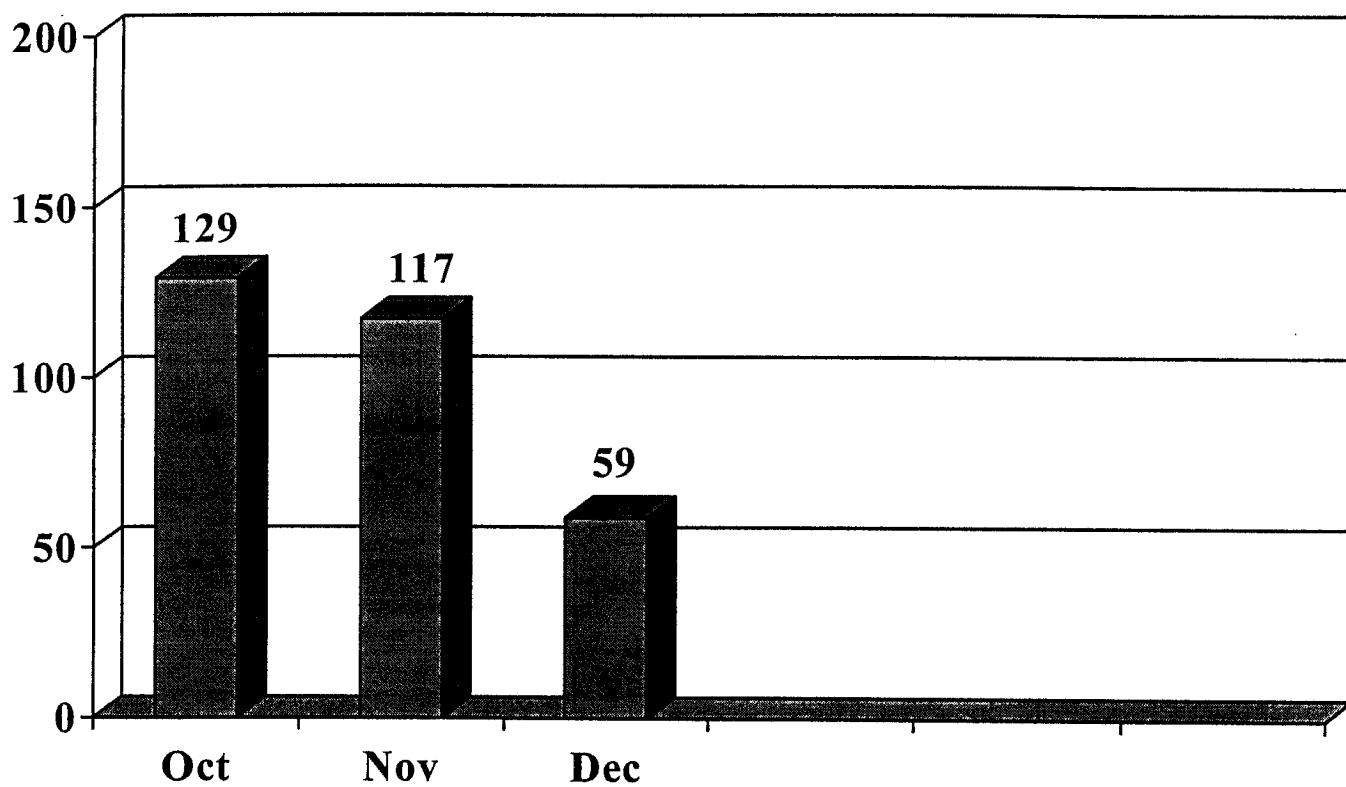


Non-DOE Patients Seen at Outpatient Clinic: Ebeye Hospital⁴



⁴ October figures include 12 patients seen by the Resident, November includes 39 patients seen by the Resident and December includes 40 patients seen by the Resident, Dr. Riklon and Dr. Alik.

Non-DOE Patients Seen at Outpatient Clinic: Majuro Hospital⁵



⁵ October figures for Dr. Zachraias were based on an estimate of 10 patients per day 3 days per week. In addition, October includes 97 patients seen by Dr. Riklon and the Resident, November includes 117 patients seen by Dr. Riklon and the Resident and December includes 59 patients seen by Dr. Riklon and the Resident.

Detail on Patient Referrals

1. Patient #64 was referred to Straub Clinic & Hospital in Honolulu for follow-up on a mass on the forehead.
2. Patient #71 was referred to Straub Clinic & Hospital in Honolulu for follow-up on a chest mass found on a routine chest x-ray.
3. Patient #1564 was referred to Straub Clinic & Hospital in Honolulu for follow-up on an abnormal screening mammogram.
4. Patient #2231 was referred to Straub Clinic & Hospital in Honolulu for follow-up on sudden onset of left-sided weakness.

Detail on Patient Deaths

1. Patient #977 passed away in December of 2001. The cause of death is unknown at this time.

Exhibit 2

Ejmour Mokta – DOE/PHRI Special Medical Care Program in the Republic of the Marshall Islands

Rotation Schedule

I. Faculty⁶

Oct. 12 – Oct. 26 Kathleen Kozak, MD
Dec. 14 – Jan. 4, '02 Wilfred Alik, MD

II. Residents

Sep. 17 – Oct. 12 Kazu Hernandez, MD
Oct. 12 – Nov. 9 Charles Whitehill, MD
Nov. 12 – Dec. 7 Sharyl Taoka, MD
Dec. 10 – Jan. 4, '02 Gabriela Ortiz-Omphroy

III. Other

Oct. 11 – Oct. 17 Lola Colombe (Program Coordinator) and Chris Welch
(Systems Analyst) to Majuro and Kwajalein

⁶ Beginning 1 August 2001, Dr. Sheldon Riklon was hired as Director, Clinical Operations in the RMI. Faculty rotations other than Dr. Wilfred Alik will be on an as needed basis.

Exhibit 3

Mejatto Trip

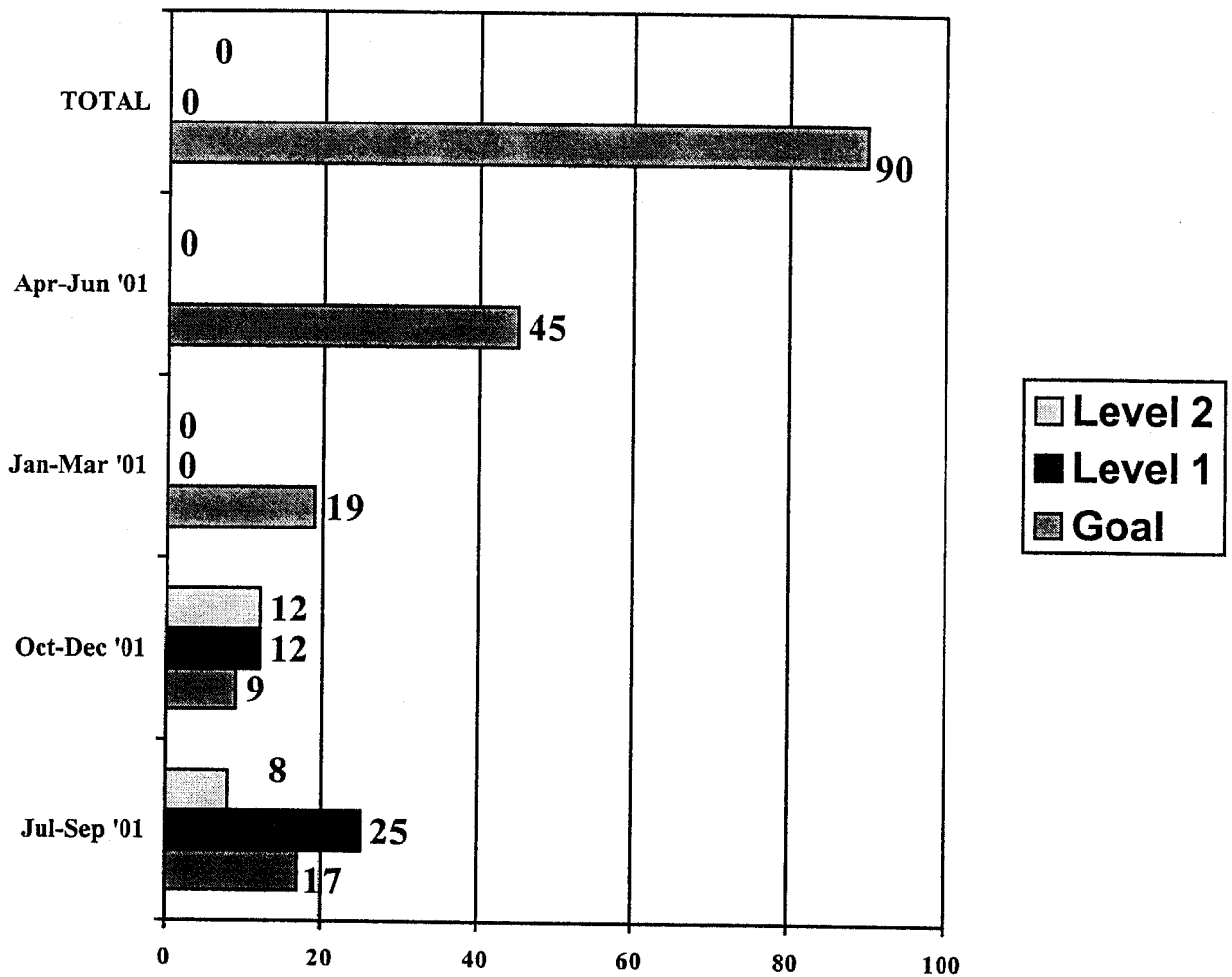
DATE	ATOLL	PHYSICIANS/STAFF*	PATIENTS SEEN
October 2001	Mejatto	Dr. Tom Jack, MO Kazu Hernandez, MD Bonnita Patrick, NC	DOE 5 Non-DOE 14

*NOTE: MO = Medical Officer, NC = Nurse Coordinator.

Exhibit 4

Performance Measures

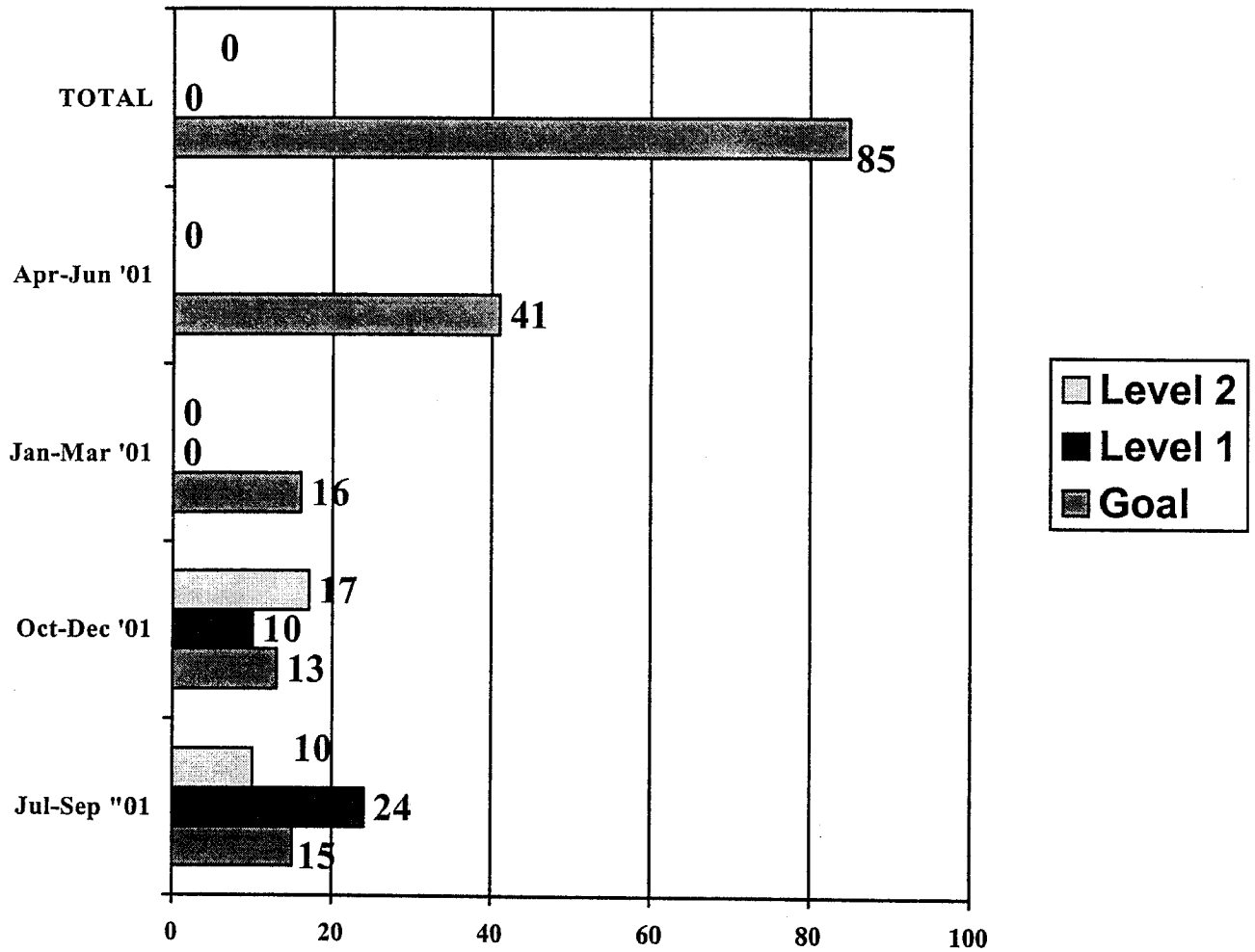
Annual Examinations - Majuro Clinic⁷



⁷ Note: Level 1 represents the number of annual exams that have been started but not completed. Level 2 represents the number of annual exams that have been completed.

Performance Measures

Annual Examinations - Kwajalein Clinic ⁸



⁸ Note: Level 1 represents the number of annual exams that have been started but not completed. Level 2 represents the number of annual exams that have been completed.